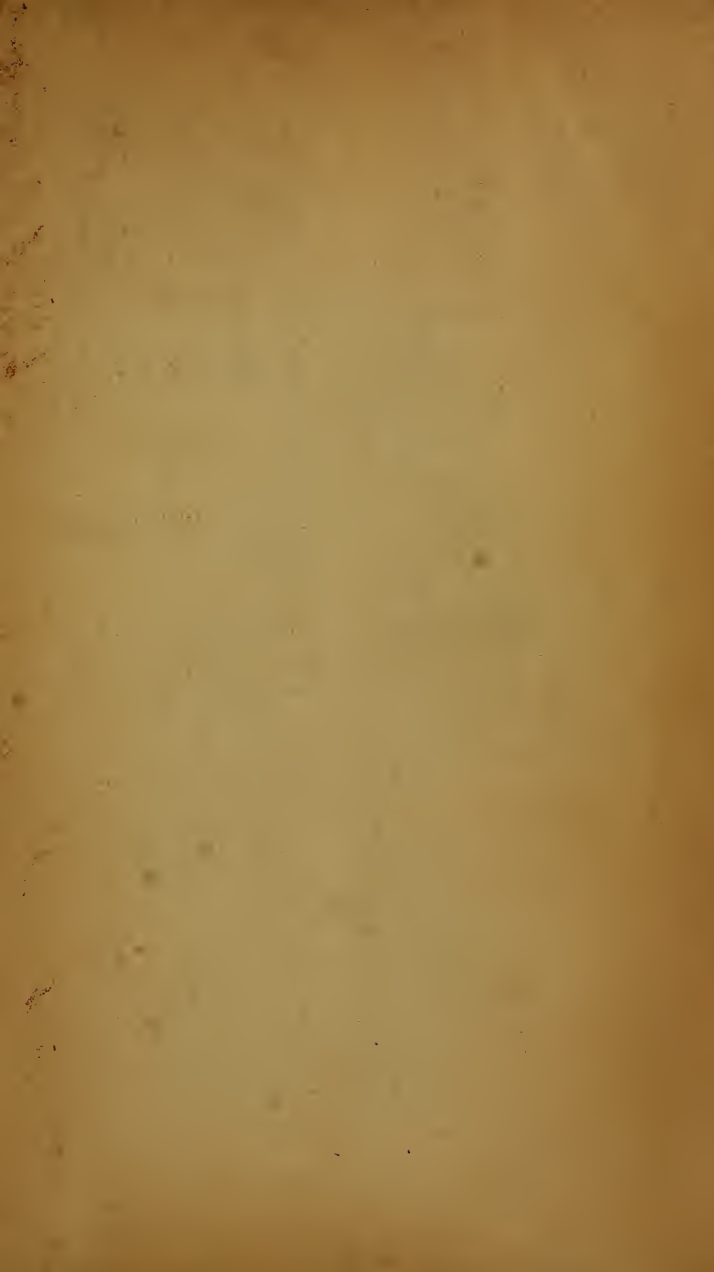




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ONE HUNDRED AND SECOND  
ANNUAL CATALOGUE  
OF THE  
MEDICAL SCHOOL  
(BOSTON)  
OF  
HARVARD UNIVERSITY.

1884-85.

*[Reprinted from the Catalogue of the University.]*



CAMBRIDGE, MASS.  
PUBLISHED BY THE UNIVERSITY.  
1884.



# THE MEDICAL SCHOOL.

BOSTON.

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Instruction in this School is given by lectures, recitations, clinical teaching, and practical exercises, uniformly distributed throughout the academic year. The year begins on the Thursday following the last Wednesday in September,\* and ends on the last Wednesday in June. There is a recess at Christmas, beginning December 23, and ending January 2; and a spring recess, beginning on the Wednesday before Fast Day, and ending on the following Tuesday, inclusive.

The course of instruction has been greatly enlarged, and is so arranged as to carry the student progressively and systematically from one subject to another, in a just and natural order.

In the subjects of anatomy, histology, chemistry, and pathological anatomy, laboratory-work is substituted for, or added to, the usual didactic lectures, and is as much required of every student as attendance at lectures and recitations.

The course of study recommended by the Faculty covers four years, but until further notice the degree of Doctor of Medicine will continue to be given upon the completion of three years of study, to be as ample and full as heretofore. The degree of Doctor of Medicine *cum laude* will be given to candidates who have pursued a complete four years' course, and obtained an average of 75 per cent in all the examinations of this course. In addition to the ordinary degree of Doctor of Medicine as heretofore obtained, a certificate of attendance on the studies of the fourth year will be given to such students desiring it as shall have attended the course, and have passed a satisfactory examination in the studies of the same.

Instead of the customary oral examination for the degree of Doctor of Medicine, held at the end of the three and four year's period of study, a series of written examinations on all the main subjects of medical instruction has been distributed for regular students through their entire course of study. Every candidate for the degree must pass a satisfactory examination in every one of the principal departments of medical instruction, at some time during his period of study.

\* That the time of study shall count as a full term, students of every class must present themselves within the first week of the term and register their names with the Secretary.

A new building has just been completed at a cost of more than a quarter of a million of dollars. Its numerous apartments are spacious, well lighted, and provided with carefully contrived apparatus for heating and ventilation. The comfort and convenience of the students have been constantly borne in mind in the arrangement of rooms, the construction of seats, and in the furnishing of the various laboratories, halls for lectures, and rooms for recitation, study, and conversation. The building is devoted to laboratory instruction and didactic teaching, while the general and special clinics take place at the various hospitals and dispensaries. Greatly enlarged and improved facilities are offered at the Massachusetts General Hospital and the Boston Dispensary, both of which institutions have constructed buildings to meet the constantly increasing demands for their usefulness.

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### FACULTY.

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WILLIAM F. WHITNEY, M.D., *Secretary, and Curator of the Anatomical Museum.*

MAURICE H. RICHARDSON, M.D., *Demonstrator of Anatomy, and Assistant in Surgery.*



## OTHER INSTRUCTORS.

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WALTER J. OTIS, M.D., *Assistant in Operative Surgery.*

CHARLES HARRINGTON, M.D., *Assistant in Chemistry.*

OTIS K. NEWELL, M.D., *Assistant in Anatomy.*

The following gentlemen will give special clinical instruction : —

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THEODORE W. FISHER, M.D., and WILLIAM B. GOLDSMITH, M.D., *in Mental Diseases.*

FRANCIS B. GREENOUGH, M.D., and ABNER POST, M.D., *in Syphilis.*

OLIVER F. WADSWORTH, M.D., *in Ophthalmoscopy.*

J. ORNE GREEN, M.D., and CLARENCE J. BLAKE, M.D., *in Otology.*

JOSEPH P. OLIVER, M.D., and THOMAS M. ROTCH, M.D., *in Diseases of Children.*

SAMUEL G. WEBBER, M.D., and JAMES J. PUTNAM, M.D., *in Diseases of the Nervous System.*

JAMES R. CHADWICK, M.D., *in Diseases of Women.*

ELBRIDGE G. CUTLER, M.D., and WILLIAM W. GANNETT, M.D., *in Auscultation.*

The Medical School is at the corner of Boylston and Exeter Streets, Boston, and the address of the Dean is Dr. H. P. Bowditch, Harvard Medical School, Boston.

## STUDENTS.

## COURSE FOR GRADUATES.

Bowen, John Templeton, A.B., M.D.,	<i>Boston.</i>
Burdick, Allen, M.D.,	<i>Roxbury.</i>
Potter, Silas Allen, A.B., M.D.,	<i>Boston.</i>

## FOURTH CLASS.

Abbe, Alanson Joseph, A.B.,	<i>Dorchester.</i>
Boardman, William Sydney, A.B. ( <i>Amherst Coll.</i> ),	<i>Newburyport.</i>
Boyd, Samuel George,	<i>Nassau, Bahamas.</i>
Brackett, Elliott Gray,	<i>Boston.</i>
Burgess, Oliver Graham,	<i>Boston.</i>
Coolidge, Algernon, A.B.,	<i>Boston.</i>
Dunham, Edward Kellogg, PH.B. ( <i>Columbia Coll.</i> ),	<i>Irvington, N. Y.</i>
Holcombe, Charles Henry,	<i>Milford, N. H.</i>
Howe, Oliver Hunt,	<i>Dedham.</i>
Merrill, Edward Roscoe, A.B.,	<i>Andover.</i>
Prescott, William Herbert,	<i>Concord.</i>
Sanford, Abbott, A.M. ( <i>Amherst Coll.</i> ),	<i>E. Bridgewater.</i>
Schram, Charles, A.B. ( <i>Yale Coll.</i> ),	<i>Milwaukee, Wis.</i>
Taft, Charles Ezra,	<i>Dedham.</i>
Thissell, Joseph Abbott,	<i>Beverly.</i>
Wellington, Charles Berwick,	<i>Cambridge.</i>

## THIRD CLASS.

Babcock, James Woods, A.B.,	<i>Chester, S. C.</i>
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Bullock, Edwin Warren,	<i>Wellesley.</i>
Carroll, John Aloysius, A.B. ( <i>Holy Cross Coll.</i> ),	<i>Worcester.</i>
Chase, Heman Lincoln, A.B.,	<i>Brookline.</i>
Cheney, Frederick Edward,	<i>Rutland, Vt.</i>
Clark, George Stillman,	<i>Hardwick.</i>
Clark, Joseph Payson, A.B.,	<i>Boston.</i>
Cochrane, John McGregor, A.B.,	<i>Cambridge.</i>
Collins, David Aloysius,	<i>Boston.</i>
Craig, James Wallace,	<i>Middletown, Conn.</i>
Crowell, Samuel,	<i>Dennis.</i>
Danforth, William Henry, A.B.,	<i>Plymouth.</i>
Davis, Myron Henry,	<i>Belchertown.</i>

Delaney, Richard, A.B.,	Woodville.
Durand, Henry Strong, A.B. ( <i>Yale Coll.</i> ),	Rochester, N. Y.
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Foster, Burnside, A.B. ( <i>Yale Coll.</i> ),	Boston.
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Cochran, William James,	<i>Milford.</i>
Conlan, Simon Bernard, A.B. ( <i>Holy Cross Coll.</i> ),	<i>Cambridge.</i>
Conlan, Thomas,	<i>E. Cambridge.</i>
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Davenport, James Henry, PH.B. ( <i>Brown Univ.</i> ),	<i>Fall River.</i>
Dodge, William Wooldredge, A.B. ( <i>Tufts Coll.</i> ),	<i>Marblehead.</i>
Dow, Edmund Scott, A.B.,	<i>Brookline.</i>
Draper, Frank Eugene,	<i>No. Attleboro'.</i>
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Gleason, William Francis,	<i>Milford.</i>
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Harrington, Frank Abram, A.B.	<i>Orangeport, N. Y.</i>
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Holden, Austin,	<i>Cambridge.</i>
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Jack, Ernest Sanford, A.B.,	<i>Portland, Me.</i>
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Jillson, Franklin Campbell,	<i>Worcester.</i>
Kidder, Edward Hamilton,	<i>Lincoln.</i>
Leitch, John Alvin,	<i>Andover.</i>
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Litch, John Goodrich,	<i>Boston.</i>
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Mead, George Nathaniel Plumer,	<i>Everett.</i>
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Pomeroy, William Henry, A.B. ( <i>Brown Univ.</i> ),	<i>Springfield.</i>
Pulsifer, William Moor, A.B. ( <i>Colby Univ.</i> ),	<i>Waterville, Me.</i>
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Robinson, John Franklin,	<i>Manchester, N. H.</i>
Ross, Carroll Baldwin, A.B. ( <i>Middlebury Coll.</i> ),	<i>Poultney, Vt.</i>
Sargent, George Amory, A.B.,	<i>Boston.</i>
Scudder, Charles Locke, A.B., PH.B. ( <i>Yale Coll.</i> ),	<i>Great Barrington.</i>
Smith, Herbert Llewellyn, A.B. ( <i>Dart. Coll.</i> ),	<i>Hudson Centre, N. H.</i>
Sprague, Richard, A.B.,	<i>Boston.</i>
Stearns, Daniel Waldo,	<i>Newton.</i>
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Stratton, William Edgar, A.B. ( <i>Johns Hopkins Univ.</i> ),	<i>Baltimore, Md.</i>
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## FIRST CLASS.

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Bunker, Frederic Story, A.B.,	<i>Cambridge, Me.</i>
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Jameson, Winthrop Marston,	<i>Cambridge.</i>
Jones, Gilbert Norris, A.B.,	<i>Bangor, Me.</i>
Kane, Thomas Francis, A.B. ( <i>Holy Cross Coll.</i> ),	<i>Hartford, Conn.</i>



Kaufman, Franklin John,	<i>Syracuse, N. Y.</i>
Kennon, Charles Edward Vere,	<i>Goshen, Conn.</i>
Lancaster, Walter Brackett, A.B.,	<i>Newton.</i>
Leary, John Henry, A.B. ( <i>Boston Coll.</i> ),	<i>Fall River.</i>
Lee, Julius Henry,	<i>Fishkill-on-Hudson, N. Y.</i>
Lempe, George Gustave,	<i>Lansingburg, N. Y.</i>
Lewis, Joshua Francis, S.B. ( <i>Dartmouth Coll.</i> ),	<i>Malden.</i>
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Morrison, William Alexander,	<i>E. Boston.</i>
Nelson, Henry David, A.B.,	<i>Milford.</i>
Nichols, John Holyoke,	<i>Danvers.</i>
Norton, Eben Carver,	<i>Brookline.</i>
O'Connor, John James,	<i>Springfield.</i>
O'Donnell, Francis Michael, A.B. ( <i>Boston Coll.</i> ),	<i>Marlboro'.</i>
O'Donnell, William,	<i>Boston.</i>
O'Leary, Clement Dietrich, A.B. ( <i>Brown Univ.</i> ),	<i>Providence, R. I.</i>
Osgood, George Edward,	<i>Everett.</i>
Padula, Thomas Francis, A.B. ( <i>Holy Cross Coll.</i> ),	<i>Quincy.</i>
Peirson, Edward Lawrence, A.B.,	<i>Boston.</i>
Peters, John Matthews,	<i>Syracuse, N. Y.</i>
Phippen, Hardy, A.B.,	<i>Salem.</i>
Plummer, Henry Lincoln,	<i>E. Boston.</i>
Reeves, Marcellus,	<i>Boston.</i>
Schaaake, Frederick Henry,	<i>Lawrence.</i>
Sears, Henry Francis, A.B.,	<i>Boston.</i>
Sears, Richard Dudley, A.B.,	<i>Boston.</i>
Shea, Thomas Bernard, A.B. ( <i>Holy Cross Coll.</i> ),	<i>Boston.</i>
Shorey, John Lyman,	<i>Maplewood.</i>
Silliman, Wyllis Augustus, A.M. ( <i>Union Coll.</i> ),	
PH.D. ( <i>Würzburg, Ger.</i> ),	<i>Clarkson, N. Y.</i>
Thorndike, Augustus, A.B.,	<i>Brookline.</i>
Thorndike, Paul, A.B.,	<i>Milwaukee, Wis.</i>
Tigh, Frederick,	<i>Peabody.</i>

Treviño, Donaciano, s.B. ( <i>St. Joseph's Coll., Ky.</i> )	<i>Matamoras, Mexico.</i>
Treviño, Manuel Francisco, s.B. ( <i>St. Joseph's Coll., Ky.</i> ),	<i>Matamoras, Mexico.</i>
Tuck, Lorenzo Wadsworth, A.B. ( <i>Amherst Coll.</i> ),	<i>So. Weymouth.</i>
Tuttle, Karl Rand,	<i>Newton.</i>
Walker, John Baldwin, A.B.,	<i>Cambridge.</i>
Webster, George Arthur,	<i>Boston.</i>
Wesselhoeft, William Fessenden, A.B.,	<i>Boston.</i>
Wilmarth, Frederick Augustus,	<i>Upton.</i>
Worcester, Charles Pomeroy, A.B.,	<i>Newtonville.</i>

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SECOND CLASS . . . . .	77
FIRST CLASS . . . . .	102
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TOTAL . . . . .	249



## THE MEDICAL SCHOOL.

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### REQUISITES FOR ADMISSION.

All candidates for admission, except those who have passed an examination for admission to Harvard College, must present a degree in Letters, Science, or Medicine, from a recognized college or scientific school, or pass an examination in the following subjects:—

1. ENGLISH. Every candidate will be required to write, legibly and correctly, an English composition of not less than two hundred words, and also to write English prose from dictation.

2. LATIN. The translation of easy Latin prose.

3. PHYSICS. A competent knowledge of Physics (such as may be obtained from Balfour Stewart's Elements of Physics).

4. ELECTIVE SUBJECT. Each candidate must pass an approved examination in any *one* of the following subjects: French, German, the Elements of Algebra or of Plane Geometry, Botany.

Whenever the candidate shall give evidence of having passed a satisfactory examination in any of the above requirements either at Harvard College or at the Lawrence Scientific School, a subsequent examination in such subject or subjects will not be demanded for his admission to the Medical School.

The examinations will be held at the Medical School and conducted in writing; specimens of the papers used will be sent on application to the Dean. In judging the work of the candidate, the spelling, grammar, and construction will be considered.

*The examinations for admission* are held in June and September, on the Monday preceding the last Wednesday in those months, beginning at 10 A.M.

In 1885 the *examinations for admission* will ALSO be held at the following places, beginning at 8 A.M. on Thursday, June 25:—

In *Andover*, in rooms of the Phillips Academy; in *Quincy*, in rooms of the Adams Academy; in *Exeter, N.H.*, in rooms of the Phillips Exeter Academy; in *New York*, in the lecture-room of the Young Men's Christian Association, Twenty-third Street, corner of Fourth Avenue; in *Philadelphia*, in the library-hall of the Academy of Natural Sciences, S. W. corner of Nineteenth and Race Streets; in *Cincinnati*, in the rooms of the Law School of the University of Cincinnati, College Building, Walnut Street; in *Chicago*, in the rooms of the Chicago Athenaeum, 50 Dear-

born Street; in *St. Louis*, in the Central High School building, corner of Olive and Fifteenth Streets; in *San Francisco*, in rooms of the Boys' High School, on Sutter Street, between Gough and Octavia Streets.

## DIVISION OF STUDIES.

### FOUR YEARS' COURSE.

*For the First Year.* — Anatomy, Physiology, General Chemistry,\* and Materia Medica.

*For the Second Year.* — Practical and Topographical Anatomy, Medical Chemistry, Pathological Anatomy, Clinical Medicine, Surgery, and Clinical Surgery.

*For the Third Year.* — Therapeutics, Obstetrics, Theory and Practice of Medicine, Clinical Medicine, Surgery, and Clinical Surgery.

*For the Fourth Year.* — Ophthalmology, Otology, Dermatology, Syphilis, Laryngology, Mental Diseases, Diseases of the Nervous System, Diseases of Women, Diseases of Children, Obstetrics, Clinical and Operative Obstetrics, Clinical Medicine, Clinical and Operative Surgery, Legal Medicine.

### THREE YEARS' COURSE.

*For the First Year.* — Anatomy, Physiology, General Chemistry,\* and Materia Medica.

*For the Second Year.* — Practical and Topographical Anatomy, Medical Chemistry, Pathological Anatomy, Clinical Medicine, and Clinical Surgery.

*For the Third Year.* — Therapeutics, Obstetrics, Theory and Practice of Medicine, Clinical Medicine, Surgery, Clinical Surgery, Ophthalmology, Dermatology, Syphilis, Otology, Laryngology, Mental Diseases, Diseases of the Nervous System, Diseases of Women, Diseases of Children, Legal Medicine.

## METHODS OF INSTRUCTION.

The following methods of instruction are adopted in the several departments: —

*Anatomy.* — Lectures; various practical exercises, including abundant dissection, under the direction of the Demonstrator; recitations and demonstrations; histology, and embryology. The histological depart-

\* Any student who shall have previously passed in the Undergraduate department or Scientific School of Harvard University an examination in General Chemistry (including qualitative analysis) will be exempt from examination in this branch, and may pursue the study of Medical Chemistry during his first year. The latter privilege will be granted to students from other colleges and scientific schools who have received instruction in general chemistry equivalent in character and amount to that of the first year, on passing a satisfactory examination at the September examination, provided that satisfactory evidence of such previous study be sent to the Dean of the Faculty one month before the date of this examination.

ment has been reorganized, and the laboratories have been placed under the charge of special instructors. General class instruction in the use of the microscope and in practical histology is offered to the first-year students. Accommodations will be provided for those students who wish to pursue special or advanced courses. Facilities for original work will be duly provided; students wishing to carry out any histological or embryological research will receive all necessary assistance, and special efforts will be made to provide material for original work. Microscopes are provided for those whose means do not permit the purchase of these instruments.

*Physiology.*—Lectures, recitations, conferences, and practical demonstrations in the Laboratory. To students of the second, third, and fourth classes, opportunities are given for original investigations in the Laboratory.

*Chemistry* is taught mainly by practical work in the Laboratory, the student having his own desk and apparatus. General Chemistry and qualitative analysis are taught during the first year. Besides the laboratory-work, there is a lecture and a recitation every week. In the second year medical chemistry is taught by lectures, recitations, and exercises in the Laboratory.

*Pathological Anatomy* is taught by lectures, recitations, and practical instruction in pathological histology. The collection of the Warren Anatomical Museum is used to illustrate the lectures, and morbid specimens in a fresh state are shown at the recitations, where the student is called upon to describe the appearances. Students also receive practical instruction in the method of making autopsies, being present at those made at both hospitals. The instruction in pathological histology, including the diagnosis of tumors, is continued throughout the year. Each student, provided with a microscope, the necessary instruments and reagents, prepares the various objects and submits them for explanation and criticism. The formation of small classes for special work and the individual pursuit of original investigations are encouraged.

The school possesses a sufficient number of microscopes for the use of those students whose means will not permit the purchase of an instrument.

*Materia Medica and Therapeutics.*—*Materia Medica* is taught by lectures and recitations with exhibition of medicines and pharmaceutical processes. Besides the large cabinet of materia medica in the Museum, a complete collection of officinal drugs and chemicals, and of all the important preparations is placed where it can be seen by the students at all times, and from it sets of samples illustrating each week's lecture will be loaned for study. *Therapeutics*, or the physiological action of drugs and their application to disease, is taught in the third year by two courses of lectures, one upon Experimental Pharmacology, and the other upon Clinical Therapeutics. This subject also forms part of the hospital instruction.

*The Theory and Practice of Medicine.* — Lectures, recitations, and hospital visits.

*Clinical Medicine.* — Daily instruction is given in this department by hospital visits and other exercises. Students are furnished with cases for personal examination, and are called upon to report them before the class, where they are criticised. These examinations are held both in the wards and in the amphitheatre. Another exercise, known as the clinical conference, affords an opportunity for more thorough preparation of cases, more time being allowed for their study. The full written report of a case is read by the student who has examined it. It is afterwards criticised by the class, by the Professor of Clinical Medicine, and other teachers in the school. In addition to this, a regular course of supplementary instruction is given in Auscultation and Percussion, and in Laryngoscopy, which affords students an abundant opportunity for acquiring a thoroughly practical knowledge of these methods of exploration.

*Surgery.* — Lectures and recitations. There are also courses on Surgical Anatomy, Minor Surgery, Surgical Histology, Bandaging, and Operative Surgery. In the last, students of the third and fourth classes are supplied with material for repeating the usual surgical operations.

Instruction in Clinical Surgery is given at the Massachusetts General Hospital and City Hospital, each week throughout the year, as follows :—

One clinical lecture, one clinical conference, two visits in the hospital wards, and two public operating days.

The clinical lecture is given over surgical cases brought into the operating theatre, and is illustrated by explorations and operations. At the surgical conference second and third year students make a full written report of a surgical case, which is then criticised by their fellow-students and by the Professor. Every candidate for a degree is required to report a clinical case in surgery.

*Obstetrics.* — Lectures and recitations. Students are instructed in the usual operations on the manikin, and are required to take charge of cases of obstetrics in their third year. A course on operative obstetrics, with practical illustrations on the cadaver, is given.

*Diseases of Women.* — Lectures, recitations, and practical instruction at the different dispensaries in the education of the touch. In these institutions every facility is given the student to become familiar with the different forms of uterine disease. A course in operative gynaecology extending throughout the year at the Free Hospital for Women is open to students of the third and fourth classes. To students of the fourth class and to post-graduates cases are assigned for personal examination; these cases are reported in full at the clinical conference, and are made the subject of discussion by members of the class and the instructor. These students are also called upon to assist at the operations in the operative course.

*Diseases of Children.* — Lectures and clinical instruction.

*Ophthalmology.* — A complete course is delivered upon the diseases of the eye, including clinical instruction and the use of the ophthalmoscope.

*Dermatology* is taught by lectures and clinical illustrations. The special out-patient department at the Massachusetts General Hospital furnishes ample opportunities for illustration.

*Syphilis.* — Recitations and clinical instruction.

*Otology.* — Lectures and clinical instruction.

*Laryngology.* — Lectures and demonstrations.

*Diseases of the Nervous System.* — Lectures and demonstrations.

*Legal Medicine.* — Lectures, recitations, and demonstrations.

*Embryology.* — Lectures.

*Hygiene.* — Lectures and demonstrations.

### TEXT-BOOKS.

The following works are recommended as text-books, and for collateral reading and consultation: —

#### ANATOMY.

*Text-Books.* — Gray (10th edition). Quain (9th edition). Wilson. Holden's Manual. Holden's Landmarks. Dwight's Frozen sections of a Child. Treves' Applied Anatomy.

*Collateral Reading.* — Harrison Allen's Anatomy. Tillaux, Anatomie Topographique. Dwight's Anatomy of the Head. Holden's Osteology. Humphrey's Human Skeleton. Morris, on the Joints. Frey's Histology. Klein's Atlas of Histology. Foster and Balfour's Embryology. Satterthwaite's Histology.

#### PHYSIOLOGY.

*Text-Books.* — Dalton's Human Physiology. Foster's Text-book of Physiology. Huxley's Elementary Lessons in Physiology. Martin, The Human Body.

*Collateral Reading.* — Pavy on Food and Dietetics. Fick, Compendium der Physiologie. Sanderson's Hand-book for the Physiological Laboratory. Carpenter's Principles of Human Physiology. Gamgee's Physiological Chemistry of the Animal Body.

#### GENERAL CHEMISTRY.

*Text-Books.* — Bloxam's Chemistry, Inorganic and Organic. Clowes's Elementary Treatise on Practical and Qualitative Inorganic Analysis.

*Collateral Reading.* — Roscoe and Schorlemmer's Treatise on Chemistry.

#### MEDICAL CHEMISTRY.

*Text-Books.* — Neubauer and Vogel, Analysis of the Urine. Tyson, Practical Examination of Urine. Wharton and Stillé's Medical Jurisprudence, Vol. II., on Poisons, 4th edition.

*Collateral Reading.* — Kingzett, Animal Chemistry. Hoppe-Seyler, Physiologische Chemie. Taylor on Poisons. Tardieu, Étude médico-légale et clinique sur l'empoisonnement.



## MATERIA MEDICA.

*Text-Books.* — United States Dispensatory. H. C. Wood's Therapeutics.

*Collateral Reading.* — United States Pharmacopoeia. National Dispensatory. Bentley and Trimmen's Medicinal Plants.

## PATHOLOGICAL ANATOMY.

*Text-Books.* — Ziegler's General and Special Pathological Anatomy. Orth's Compend of Diagnosis in Pathological Anatomy.

*Collateral Reading.* — Cornil and Ranvier's Pathological Histology. Coats's Manual of Pathology.

## THERAPEUTICS.

*Text-Books.* — H. C. Wood's Therapeutics. Mann's Prescription Writing. Chamber's Manual of Diet.

*Collateral Reading.* — Stillé's Therapeutics and Materia Medica. Bartholow's Materia Medica and Therapeutics. Ringer's Therapeutics.

## OBSTETRICS.

*Text-Books.* — Lusk's Manual of Midwifery.

*Collateral Reading.* — Schroeder's Manual of Midwifery. Cazeaux's Midwifery. Winckel's Diseases of Childbed. Barker's Puerperal Diseases, Barnes's Obstetric Operations.

## THEORY AND PRACTICE.

*Text-Books.* — Flint's Practice of Medicine.

*Collateral Reading.* — Jaccoud, Traité de Pathologie Interne. Flint's Clinical Medicine. Niemeyer's Text-book of Practical Medicine. Cutler and Garland's Percussion Outlines. Ziemssen's Cyclopaedia of the Practice of Medicine.

## CLINICAL MEDICINE.

*Text Books.* — Flint's Practice of Medicine. Flint's Manual of Percussion and Auscultation.

*Collateral Reading.* — Same as in Theory and Practice.

## SURGERY.

*Text-Books.* — Bryant's Practice of Surgery. Billroth's Surgical Pathology. Smith's Operative Surgery.

*Collateral Reading.* — Holmes's System of Surgery. The International Encyclopedia of Surgery. Van Buren and Keyes's Genito-urinary Organs and Syphilis. Guérin, Éléments de Chirurgie Opératoire.

## GYNAECOLOGY.

*Text-Books.* — Thomas on the Diseases of Women. Fifth Edition.

*Collateral Reading.* — Emmet's Principles and Practice of Gynaecology. Klob's Pathological Anatomy of the Female Sexual Organs. Savage, The Surgery, Surgical Pathology, and Surgical Anatomy of the Female Pelvic Organs.

*The following tabular view illustrates the distribution of studies throughout the year.*

1884-85, FROM SEPTEMBER 25 TO JUNE 24.

**First Class.**

	Monday.	Tuesday.	Wednesday.	Thursday.	Friday.	Saturday.
9	{Histology.}	Laboratory.	{*Practical Physiol.}	{Histology.}	Laboratory.	
10		Embryology, after Feb.			*Anatomy, R.	Physiology, R.
11	Physiology, L. or Conf.	Physiology, L.	Chem. L. or R., first 10 weeks. †Materia M.	Chemistry, L.	Physiology, L.	{*Practical Physiol.}
12	Anatomy, L.	Anatomy, L.	Anatomy, L.	†Hygiene, L.	Chemistry, R.	
2	Laboratory.	Laboratory.	Laboratory.	Laboratory.	Laboratory.	
3	Laboratory.	Laboratory.	Laboratory.	Laboratory.	Laboratory.	
4	†Materia M. Pract. Anat., Jan. till May.	Pract. Anat., Jan. till May.	Pract. Anat., Jan. till May.	Pract. Anat., Jan. till May.	Pract. Anat., Jan. till May.	

\* In sections.

† After February.

‡ In second half year.

**Second Class.**

	Monday.	Tuesday.	Wednesday.	Thursday.	Friday.	Saturday.
8	†Bandaging.	†Bandaging.	†Bandaging.	†Bandaging.	†Bandaging.	†Bandaging.
9	Clin. Med. B. C. H.	B. C. H. Med. Visit. Boston Disp.	M. G. H. Clin. Med. L.	M. G. H. Med. Visit. after Oct.	Boston Disp.	Clin. Med. L.
10	*Laryngo'py. 10.30 M. G. H. Clin. Sur. after Dec.	B. C. H. Surg. Clin., Oct. till Apr. *Laryngo'py.	*Laryngo'py.	*Laryngo'py.	B. C. H. Surg. Visit. *Laryngo'py.	M. G. H. Surg. Visit. *Laryng'py
11	*Auscultation	*Auscultation	*Auscultation †Materia M.	*Auscultation	B. C. H. Op. *Auscultation	M. G. H. Op. *Auscult.
12				12.15 M. G. H. Sur. Conf. after Oct.	Path. Anat. L.	Museum.
2	Chemistry, L.	Path. Histol.	Chemistry, R.		Path. Histol.	
3	Path. Anat. R.	Laboratory.	Path. Anat. L.	Path. Anat. R.	Laboratory.	
4	†Materia M. Pract. Anat., till May.	Surgery, R. Pract. Anat., till May.	Pract. Anat., till May.	Top. Anat. Pract. Anat., till May.	Clin. Conf. Pract. Anat., till May.	
5	Theo. & Pr. R.			Theo. & Pr. R.		

\* Till February in sections.

† Till January in sections.

‡ After February.

At five o'clock, practical exercises in anatomy, in which all classes may take part, will be conducted by the Demonstrator.

Clinical Surgery at M. G. H. & B. C. H. in sections, of which due notice will be given.

## Third Class.

	Monday.	Tuesday.	Wednesday.	Thursday.	Friday.	Saturday.
9	Clin. Med. B. C. H. Eye and Ear Inf.	B. C. H. Med. Visit. Boston Disp.	M. G. H. Clin. Med. L.	Otol. L., in Nov. Clin. Otol. E. and E. Inf., Dec., Jan., & Feb. M. G. H. Med. Visit, after Oct. Dis. of Ner. S.	B. C. H. Ophthal. Otol. L. in Dec. Clin. Otolology, B. C. H., Jan., Feb., Mar.	M. G. H. Clin. Med. L.
10	10.30 Surg. L., till Jan. M.G.H. Sur. Clin., after Dec.	B. C. H. Surg. Clin., Oct. till Apr. *Gynaecol., till April.	Clin. Dermatology.		B. C. H. Surg. Visit. Boston Disp. *Gynaecol., till April.	M. G. H. Surg. Visit.
11		Dis. of Nerv. Sys., till Feb.	Diseases of Children, Nov. till May.	Surgery, L.	B. C. H. Op. Diseases of Children.	M. G. H. Op.
12	Obstetrics, L., Oct., Nov., Dec., Apr., May, June. Obstetrics, R., Jan., Feb., March.	Leg. Med., till Feb. Surg. Anat., Mar. & Apr.	Clin. Med. L. (N. Grove St.)	12.15 M. G. H. Surg. Conf., after Oct.	Syph., till Feb. Surg. Anat., Mar. & Apr.	Museum.
2	Gynaecol. L.			† Ophthal. L.		
3	Theo. & Prac. L.	† Ophthalmol- ogy, L. Mental Dis., after Jan.	Obstetrics, R., Oct., Nov., Dec., Apr., May, June. Obstetrics, L., Jan., Feb., Mar.	Theo. & Prac. L.	Obstetrics, L.	Mental Diseases. Clinic, after Apr. 1.
4	Therapeutics, L.	Dermatology, L.	Therapeutics, L.	Therapeutics, L.	Clinical Conf.	
5		Theo. & Prac. R.			Theo. & Prac. R.	

\* At the Boston Dispensary or Free Hospital for Women, in sections.

† During first half year.

Due notice will be given of the times of the operative courses in Surgery and Obstetrics, which are not to interfere with any of the other regular courses of instruction.

The Annual Examinations begin June 8; all conflicting exercises then cease.



## Fourth Class.\*

	Monday.	Tuesday.	Wednesday.	Thursday.	Friday.	Saturday.
9	Ophthalm. B.C.H., C & D Oct. Nov. Dec. A & B Ap. May, Jun. Otol. E. & E. Inf., A & B, Dec. Jan. Feb. B.C.H., C & D, Jan. Feb. Mar.	Clin. Med. M. G. H., during Oct. Dis. of Nerv. Sys. B.C.H., C & D till Feb. Laryngology, Feb. & Mar.	Ophthalm. B.C.H., C & D Oct. Nov. Dec. A & B Ap. May, Jun. Otol. E. & E. Inf., A & B, Dec. Jan. Feb. B.C.H., C & D, Jan. Feb. Mar.	Dis. of Nerv. Sys. B.C.H., C & D till Feb. Laryngology, Feb. & Mar.	Clin. Med. M. G. H., during Oct. Laryngology, Feb. & Mar.	Clin. Med. Bost Disp.
10	Dis. of Chil., A & B till Feb. C & D after Jan.	Dermatol., A & B till Feb. C & D after Jan.	Dermatol., A & B till Feb. C & D after Jan. Gynaecology, C & D till Feb. A & B after Feb.	Dis. of Chil., A & B till Feb. C & D after Jan.	Dermatol., A & B till Feb. C & D after Jan.	Dis. of Chil., A & B till Feb. C & D after Jan. Gynaecol., C & D till Feb. A & B after Jan.
11	Gynaecology, † A & C till Feb. Clin. Obstet., C Oct., Nov., Dec. A Apr., May, June.	Dis. of Nerv. Sys. M. G. H., A & B after Jan. Ophthalm. M. G. H., A & B Dec. Jan. C & D Feb. Mar.	Gynaecology, * B & D after Jan.	Dis. of Nerv. Sys. M. G. H., A & B after Jan. Ophthalm. M. G. H., A & B Dec. Jan. C & D Feb. Mar.	Gynaecology, † A or B till Feb. † C or D after Jan. Clin. Obst., D Oct., Nov., Dec. B Apr., May, June.	
11.30	Syphilis, A till Feb. C after Jan.		Syphilis, B till Feb. D after Feb.			
12					Clin. Sur. M. G. H.	
2	Gynaecol. L.			† Ophthalm. L.		
3	§ Hygiene, L.	† Ophthalm. L. Mental Dis. after Feb.	§ Hygiene, L.	Gynaecol. Conf.	Clin. Med. B. C. H.	Mental Dis. Clinic.
4	Orthop. Sur., Oct. Nov. Dec.	Dermatology, L.	Ovar. Tumors, Jan. & Feb. Orthop. Sur., Oct. Nov. Dec.	Gynae. Free Hosp., L. & Operations.	Legal Med. B. C. H.	

\* Divided into Sections A, B, C, D.

† The clinical exercises in Gynaecology for A and C till Feb. and for B and D after Jan. are at the Dispensary for Women in Staniford St.

‡ During first half year.

§ In the second half year.

Due notice will be given of the courses in Operative Surgery, Obstetrics, and Gynaecology.

## INSTRUCTION FOR 1884-85 TO STUDENTS OF THE THREE YEARS' COURSE.

### Anatomy.

Descriptive Anatomy. *Four times a week.* Professor DWIGHT.

Practical Anatomy, with Exercises in Dissection. *Eight hours daily from October 15th till May.* Demonstrations and Recitations. Drs. RICHARDSON, MIXTER, and NEWELL.

Topographical and Advanced Anatomy. *Once a week.* Professor DWIGHT.

Laboratory Exercises in Histology. *Twice a week.* Drs. QUINCY and C. S. MINOT.

Embryology. *Twenty lectures.* Dr. C. S. MINOT.

### Physiology.

Systematic and Experimental Physiology. *Four times a week.* Professor BOWDITCH.

Laboratory Exercises in Experimental Physiology. Dr. J. W. WARREN.

### Chemistry.

General and Analytical Chemistry. *Twice a week, with an additional weekly exercise during the first ten weeks.* Assistant Professor HILLS.

Medical and Toxicological Chemistry. *Twice a week.* Professor WOOD. Practical Exercises in the Laboratory in General and Medical Chemistry. *Daily.* Professor WOOD, Assistant Professor HILLS, and Drs. EMERSON and HARRINGTON.

### Materia Medica and Therapeutics.

Clinical Therapeutics. *Once a week.* Professor EDES.

Experimental Therapeutics. *Twice a week.* Dr. J. W. WARREN.

Materia Medica, with the Exhibition of Drugs. *Twice a week during the second half-year.* Dr. F. H. WILLIAMS.

### Pathology and Pathological Anatomy.

General Pathology and Pathological Anatomy. *Twice a week.* Professor FITZ.

Special Pathological Anatomy, with Demonstrations. *Twice a week.* Professor FITZ.

Laboratory Exercises in Pathological Histology. *Twice a week.* Drs. WHITNEY and GANNETT.

Practical Instruction in Performing Autopsies. *Throughout the year.* Professor FITZ and Dr. GANNETT.

### Surgery.

Surgery. *Once a week.* Professor CHEEVER.

Surgical Pathology. *Once a week till January.* Assistant Professor WARREN.

Clinical Surgery. *Once a week till January.* Professor CHEEVER.  
*Once a week from January till March.* Assistant Professor PORTER.  
*Once a week from March till June.* Assistant Professor WARREN.

Surgical Conference. *Once a week from November till May.* Assistant Professor PORTER.

Operative Surgery, Demonstrative Course. *Fifteen practical exercises.* Assistant Professor PORTER assisted by Dr. OTIS.

Recitations in Surgery and Surgical Pathology. *Once a week.* Assistant Professor WARREN.

Surgical Anatomy and Operative Surgery. *Twice a week in March and April.* Assistant Professor PORTER.

Application of Bandages and Apparatus. *Laboratory exercises to the class in sections, from October till January.* Assistant Professor WARREN and Dr. WEST.

Surgical visits are made at the Massachusetts General Hospital by Professor BIGELOW, Assistant Professors PORTER and WARREN, and Drs. HODGES, BEACH and HOMANS. — At the City Hospital, by Professor CHEEVER and Drs. HOMANS, THORNDIKE, INGALLS, FIFIELD, and GAY. — The Surgical Cases at the Eye and Ear Infirmary and at the Boston Dispensary are shown by the surgeons in charge.

### Ophthalmology.

Diseases of the Eye. *Twice a week during the first half-year.* Professor WILLIAMS.

Clinical Ophthalmology. *Once a week till January, and after March.* Professor WILLIAMS.

### Dermatology.

Diseases of the Skin. *Once a week.* Professor WHITE.

Clinical Dermatology. *Once a week.* Professor WHITE.

### Syphilis.

Practical Diagnosis and Treatment of Syphilis. *Once a week for a half-year.* Dr. POST.

### Otology.

Anatomy and Physiology of the Ear. *Once a week in November.* Dr. BLAKE.

Otосcopy and Pathology of the Ear. *Once a week in December.* Dr. GREEN.

Clinical Otology. *Once a week from November till April.* Drs. GREEN and BLAKE.

### Special Pathology and Therapeutics.

Theory and Practice of Physic. *Twice a week.* Professor MINOT.  
— *Twice a week.* Assistant Professor WHITTIER and Dr. SHATTUCK.

Clinical Medicine. *Twice a week.* Professor EDES. *Twice a week.*  
Assistant Professor WHITTIER.

Clinical Conference. *Once a week.* Professor EDES, Assistant Professor WHITTIER, and Dr. GARLAND.

Practical Instruction in Auscultation and Percussion. *Five times a week during the first half-year.* Drs. GARLAND, CUTLER, and GANNETT.

Practical Diagnosis and Treatment of Diseases of the Larynx. *Six times a week, first half-year.* Assistant Professor KNIGHT.

Practical Diagnosis and Treatment of Diseases of Children. *Once a week, first half-year.* Dr. OLIVER. — *Once a week for six months, and one lecture weekly during the second half-year.* Dr. ROTCH.

Practical Diagnosis and Treatment of Diseases of the Nervous System. *Once a week till February.* Dr. WEBBER. — *Once a week.* Dr. PUTNAM.

Mental Diseases. *Once a week after January.* Assistant Professor FOLSOM.

Legal Medicine, with Demonstrations. *Twenty lectures.* Assistant Professor DRAPER.

Medical visits are made at the Massachusetts General Hospital by Professors MINOT and WHITTIER and by Drs. SHATTUCK, ABBOT, TARBELL, and W. L. RICHARDSON. — At the City Hospital, by Professor EDES and Drs. BLAKE, LYMAN, DRAPER, DOE, MASON, SUMNER, G. B. SHATTUCK, and WEBBER. — At the Danvers, South Boston, and Somerville Asylums for the Insane. — The Medical Cases at the Boston Dispensary are shown by the physicians in charge.

### Obstetrics.

Theory and Practice of Obstetrics. *Twice a week.* Professor REYNOLDS. *Once a week.* Assistant Professor RICHARDSON.

Operative Obstetrics. *Twelve practical exercises.* Assistant Professor RICHARDSON.

Practical Instruction in Clinical Obstetrics. *Throughout the year.* Assistant Professor RICHARDSON and Dr. GREEN.

### Gynaecology.

*Twice a week.* Assistant Professor BAKER. Two clinics each week during the second half-year. Assistant Professor BAKER. Two clinics each week during the first half-year. Dr. DAVENPORT.

# INSTRUCTION FOR 1884-85 TO STUDENTS OF THE FOURTH YEAR.

## Clinical Medicine.

*Twice a week during October.* Assistant Professor WHITTIER.

*Once a week after October.* Dr. DRAPER.

*Once a week after October.* Dr. GARLAND.

## Surgery.

Clinical Surgery. *Once a week.* Assistant Professors PORTER and WARREN.

Operative Surgery. *Practical Exercises.* Assistant Professor PORTER and Drs. M. H. RICHARDSON, OTIS and MIXTER.

Orthopedic Surgery. *Twice a week for three months.* Dr. BRADFORD.

## Obstetrics.

Clinical Obstetrics. *Twice a week for six months.* Operative Obstetrics. *Practical Exercises.* Assistant Professor W. L. RICHARDSON.

## Ophthalmology.

Clinical Exercises. *Twice a week for six months.* Professor WILLIAMS.

Ophthalmoscopy. *Twice a week for four months.* Dr. WADSWORTH.

## Dermatology.

Clinical Exercises. *Three times a week.* Lectures. *Once a week.* Professor WHITE.

## Gynaecology.

Clinical Instruction and Operative Gynaecology. *Six hours a week.* Assistant Professor BAKER and Dr. DAVENPORT.

Clinical Instruction and Twelve Introductory Lectures. Dr. CHADWICK.

## Diseases of Children.

Clinical Exercises. *Three times a week.* Drs. OLIVER and ROTCH.

## Diseases of the Nervous System.

Clinical Exercises. *Twice a week.* Drs. WEBBER and PUTNAM.

## Mental Diseases.

Clinical Exercises. *Once a week.* Assistant Professor FOLSOM, and Dr. FISHER.

## Laryngology.

Lectures and Clinical Exercises. *Three times a week for two months.* Assistant Professor KNIGHT.

## Otology.

Clinical Instruction, Lectures, and Demonstrations, including Instruction in making Sections and Preparations. *Twice a week for three months.* Dr. BLAKE. *Twice a week for three months.* Dr. GREEN.

### Legal Medicine.

Recitations and Demonstrations. *Once a week.* Assistant Professor DRAPER.

Demonstrations. Dr. HARRIS.

### Syphilis.

Clinical Exercises. *Two hours a week.* Dr. GREENOUGH.

### Ovarian Tumors.

Practical Diagnosis and Treatment. Six Introductory Lectures and occasional Clinical Exercises. Dr. HOMANS.

### Hygiene.

Twelve Lectures during the second half-year. Dr. DURGIN.

### Cookery.

Practical Instruction in preparing Food for Infants and Invalids. Six Exercises.

## CLINICAL ADVANTAGES.

The Medical Department of the University is established in Boston, in order to secure those advantages for Clinical Instruction and for the study of Practical Anatomy which are found only in large cities.

There are Hospital visits or operations daily.

*The Massachusetts General Hospital.*—During the past year, 2,185 patients were treated in the wards, and 16,431 in the out-patient departments, the building of which has just been greatly enlarged, and affords increased facilities for the reception and treatment of patients. Patients are received from all parts of the United States and the Provinces, and are visited by the students on four days in the week with the attending physicians and surgeons. The opportunities for becoming acquainted with general surgery are very great. Operations are numerous, and are performed in the amphitheatre, which is provided with seats for 400 persons. Clinics in the following special branches have been established in connection with the out-patient department. Dermatology, Laryngology, Diseases of the Nervous System, and Ophthalmology.

*The City Hospital.*—During the past year, 4,780 cases were treated in its wards, and 14,241 in its various out-patient departments. The medical wards always contain many cases of acute diseases, and changes are taking place constantly. The opportunities for seeing fractures, injuries, and traumatic cases of all kinds are excellent, since, on an average, 800 street accidents are yearly treated. Surgical operations are performed in the amphitheatre. These include general surgical and also ophthalmic operations. Diseases of the eye, the ear, and the skin are largely treated



in the out-patient department. Clinical instruction is given by the physicians and surgeons twice a week.

In these two hospitals, the facilities for witnessing Operative Surgery are unsurpassed. Twice a week operations are performed in the presence of the class. The number of these operations is large, reaching nearly two thousand a year. The variety is great, embracing every surgical disease and injury, including the surgical operations on the eye and ear.

*The Massachusetts Charitable Eye and Ear Infirmary.*—The nine thousand patients annually treated at this institution present every variety of disease of the ear and eye, and supply a large number of operations.

*The Marine Hospital at Chelsea* receives from the shipping of the port a large number of patients, who furnish examples of the diseases of foreign countries and of distant parts of the United States. Many cases of venereal disease, in its various forms, are treated annually.

*The Boston Dispensary.*—28,679 patients were treated at this Public Charity during the past year. Students have excellent opportunities to see minor surgery, and many of the diseases of children, and to practise auscultation. A new building has just been erected at a cost of \$50,000, where students will have ample and excellent opportunity for seeing practical work in the diagnosis and treatment of cases illustrating the various specialties of medicine and surgery.

*The Free Hospital for Women.*—In the wards of this institution, which is devoted exclusively to the diseases peculiar to women, abundant opportunity is offered to study the severer forms of uterine disease and to witness operations, which are performed once a week throughout the year.

There are twenty-five appointments annually for Internes in the various hospitals, and as many more for Assistants in the out-patient departments. Appointments for the Massachusetts General and City Hospitals are for the term of eighteen months, for the Boston Lying-in Hospital for four months, and for the Free Hospital for Women for nine months.

Students are also permitted to visit the Children's Hospital and the Carney Hospital on application to the physicians on duty.

## EXAMINATIONS.

The regular examinations are conducted in writing and are held at the end of each year in June, and a week before the opening of the School in September, on the studies of the preceding year.\* They are held in the following order:—

*At the End of the First Year.*—Anatomy, Physiology, General Chemistry,† and Materia Medica.

\* The June examination is for those only who are members of the School at the time, and for those entitled to apply for the degree.

† See foot-note on page 184.

*End of Second Year.* — Topographical Anatomy, Medical Chemistry, and Pathological Anatomy.

*End of Third Year.* — Therapeutics, Obstetrics,\* Theory and Practice of Medicine, and Surgery.\*

*End of Fourth Year.* — Ophthalmology, Otology, Dermatology, Syphilis, Laryngology, Mental Diseases, Diseases of the Nervous System, Diseases of Women, Diseases of Children, Clinical and Operative Obstetrics, Clinical Medicine, Clinical and Operative Surgery, and Legal Medicine.

In addition to the above written examinations each student is required to present a written report of the analysis of a solution containing inorganic substances, and of a specimen of urine, to examine and report upon a clinical case in Surgery, and to take charge of and report upon two cases in Obstetrics; each student must also have satisfactorily dissected the three parts of the body.

Students attending the four years' course may be examined at the end of the third or fourth year, as preferred, in Clinical Medicine, Clinical Surgery, and Obstetrics. The examinations of the first two years are common to both groups of students. The final examinations at the close of the three years' course are in the following subjects: Therapeutics, Obstetrics, Surgery and Clinical Surgery, Theory and Practice, and Clinical Medicine.

No student is allowed to anticipate the examinations in the regular course of studies of his year, except by special permission of the Faculty. Those who fail in any subject may present themselves in that subject again, at the next regular examination.

*All students are required to notify the Secretary in writing of their intention to present themselves for examination, either in June or September, one month before such examination is to be held.*

The regular examinations for the year 1884-85 will begin June 8 and September 28.

The following was the order of the examinations held in June, 1884:—

*Monday* (June 9), Therapeutics, Ophthalmology, Otology, Laryngology, and Venereal Diseases; *Tuesday*, Obstetrics and Clinical and Operative Obstetrics; *Wednesday*, Clinical Surgery, Operative Surgery, and Dermatology; *Thursday*, Clinical Medicine, Diseases of Children, and Gynaecology; *Friday*, Surgery, Diseases of the Nervous System, Mental Diseases, and Legal Medicine; *Saturday*, Theory and Practice, and Topographical Anatomy; *Monday* (June 16), Pathological Anatomy; *Tuesday*, Materia Medica; *Wednesday*, Medical Chemistry; *Thursday*, Anatomy; *Friday*, Physiology; *Saturday*, General Chemistry.

\* The examinations in Obstetrics and Surgery may be passed at the end of the fourth year if preferred.



## DIVISION OF STUDENTS.

Students are divided into four classes, according to their time of study and proficiency, and during their last year will receive largely increased opportunities of instruction in the special branches mentioned. Students following the three years' course are classified as heretofore, and the instruction in the special branches is of the same character as that which has been given for several years. Students who began their professional studies elsewhere may be admitted to advanced standing; but all persons who apply for admission to the advanced classes must pass an examination in the branches already pursued by the class to which they seek admission, and furnish a satisfactory\* certificate of time spent in medical studies. No student may advance with his class, or be admitted to advanced standing, until he has passed the required examinations in the studies of the previous year, or a majority of them; nor may he become a member of the third class, until he has passed all the examinations of the first, in addition to a majority of those of the second year.

*In order that the time of study shall count as a full year, students of all classes must present themselves within the first week of the School year and register their names with the Secretary.*

Students who do not intend to offer themselves for a degree will, however, be received for any portion of the course.

Any student may obtain a certificate of his period of connection with the School.

## LIBRARIES.

The library at the Medical College is open to students, on the deposit of five dollars, to be refunded after all books are returned.

The College Library at Cambridge is open to the students of the Medical School.

The Boston Public Library, which contains a large collection of Medical books, is open to students who are inhabitants of Boston. Students, not inhabitants of Boston, who have filed a bond at the Treasurer's office, or deposited with the Treasurer the sum of fifty dollars, may also use this library.

## REQUIREMENTS FOR THE DEGREE.

Every candidate must be twenty-one years of age, and of good moral character; must give evidence of having studied medicine three or four full years; have spent at least one continuous year at this School; have presented a satisfactory thesis; and have passed the required examinations.

The course of study recommended by the Faculty covers four years;

\* Certificates from teachers who practise any peculiar or exclusive system of medicine are not accepted.

but, until further notice, the Degree of Doctor of Medicine will be given as heretofore, upon the completion of three years of study, to applicants who have passed satisfactorily the above requirements.

The degree of Doctor of Medicine *cum laude* will be given to candidates who have pursued a complete four years' course, and obtained an average of seventy-five per cent upon all the examinations above stated. A certificate of attendance on the studies of the fourth year will be given to such graduates as have attended the course, and have passed a satisfactory examination in the studies of the same.

Theses of conspicuous merit are mentioned with honor, or read at the University Commencement.

The degree of Master of Arts is open to graduates of the School who are also Bachelors of Arts of Harvard College, and to Bachelors of Arts of other Colleges who shall be recommended by the Faculty of Harvard College. Candidates must pursue an approved course of study in Medicine for at least one year after taking the degree of Doctor of Medicine. Students who have taken the four years' course, and have passed the examinations "with high credit," may obtain the degree of Master of Arts by presenting their applications to the Faculty on or before the first of June in the year of their final examinations.

### ANATOMICAL PRIZE.

Assistant Professor C. B. PORTER offers a prize of fifty dollars, open to all students, and graduates of not more than five years' standing, except teachers of anatomy, for the best dissection deserving the award illustrative of surgical anatomy, the specimen to be presented to the Museum.

### PECUNIARY AID.

Four yearly scholarships have been established by the Faculty of the value of \$200 each, open to meritorious students who have been at the School for at least one year. The Barringer scholarships, of the value of \$300 and \$200 respectively, will be awarded to deserving students, preferably those of the fourth class. Only those needing assistance are expected to apply; and from such, those holding the highest rank will have the preference.

Two assistants in the Chemical Laboratory are appointed annually from such deserving students as need aid. Students holding this position are exempt from the payment of the fee for tuition during their term of service.

### FEEES AND EXPENSES.

For matriculation, five dollars; for a year, two hundred dollars, (if in two payments, at the first, one hundred and twenty dollars; at the second,

eighty dollars); for a half-year alone, one hundred and twenty dollars; for graduation, thirty dollars. Of students who do not pay in advance, a bond for \$300, executed by two sufficient bondsmen, one of whom must be a citizen of the United States, is required. A copy of such bond will be sent, on application to the Secretary of the Faculty, and all students are recommended to deposit such a bond. To students depositing these bonds, term-bills will be presented one week before the end of the first term, to be paid within two weeks; and also one week or more before Commencement, to be paid on or before the beginning of the next academic year. Such students will be held responsible for the payment of fees until they have notified the Dean of their intention to withdraw from the School, and have subsequently received their bond from the Treasurer. No degree can be conferred till all dues to the School are discharged. The student's general expenses may be reduced, in accordance with his means, to the standard which prevails in other cities. The janitor of the Medical College will always have a list of boarding-houses in the vicinity of the College building, varying in their rates of charges from five to ten dollars a week.

### COURSE OF STUDY FOR GRADUATES.

For the purpose of affording to those who are already graduates in medicine additional facilities for pursuing clinical, laboratory, and other studies, for which they had not previously found leisure, in such subjects as may especially interest them, and as a substitute in part for the opportunities heretofore sought in Europe, the Faculty have established a post-graduate course, of which the following is a programme. The fee in each branch is for a single half-year.

*Anatomy.* — Opportunities for advanced study and for special investigations. Fee, thirty dollars.

*Histology.* — The various methods of examining the different tissues are employed, and opportunities for original research are offered. Fee, twenty dollars.

*Physiology.* — Opportunities for original investigation in the Physiological Laboratory. Fee, thirty dollars.

*Medical Chemistry.* — Practical instruction in the Chemical Laboratory, in the analysis of the urine and other animal fluids in health and disease, and of poisons; examination of water, of food and milk for the detection of adulteration, and of blood-stains and other objects connected with medico-legal investigations, with the application of the microscope to these processes. General analysis, also, if desired. Laboratory-fee, thirty dollars.

*Pathological Anatomy.* — Practical instruction in Pathological Histol-

ogy and the examination of specimens in the Microscopical Laboratory; and opportunity for witnessing and making autopsies. Fee, twenty dollars.

*Surgery.* — A practical course of operative surgery, and instruction in the application of bandages and apparatus. Fee, twenty-five dollars.

*Laryngology.* Lectures and clinical exercises. Fee, twenty dollars.

*Ophthalmology.* — Clinical instruction, lectures on diseases of the eye, and demonstrations of the methods of performing operations. Exercises in the use of the ophthalmoscope. Fee, twenty-five dollars.

*Otology.* — Lectures and clinical instruction in diseases of the ear. Fee, fifteen dollars.

*Dermatology.* — Clinical instruction in diseases of the skin, illustrated by patients in this department of the Massachusetts General Hospital. Lectures. Fee, twenty-five dollars.

*Syphilis.* — Clinical instruction at the Boston Dispensary. Fee, fifteen dollars.

*Diseases of the Nervous System.* — Lectures and practical instruction in the diagnosis and treatment of diseases of the nervous system. Fee, fifteen dollars.

*Gynaecology.* — Clinical instruction in diseases of women. Fee, twenty-five dollars.

*Obstetrics.* — Cases supplied, and clinical instruction given. A course on operative obstetrics. Fee, twenty-five dollars.

Those pursuing this course may elect the studies to which they will give their attention, and allot the time they will devote to each. They will be exempt, unless at their option, from examinations, and may obtain a certificate of attendance on this course of advanced study. On payment of the full fee for the course, they will have the privilege of attending any of the other exercises of the Medical School, the use of its laboratories and library, and all other rights accorded by the University.


Graduates of other medical schools may obtain the degree of M.D. at this University, after a year's study in the graduates' course. The required examinations are those of the three years' course, and may be passed in such order as is desired, but only at the stated seasons.

The fee for a year is . . . . . \$200

“ for a half-year . . . . . \$120

For any of the special courses, such fees as are above specified.

For further information or catalogue, address Dr. H. P. BOWDITCH, Dean, Harvard Medical School, Boston, Mass.

 The Medical School is on Boylston Street, Boston.

## BOYLSTON MEDICAL PRIZES.

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These prizes, open to public competition, are offered annually for the best dissertations on questions in medical science proposed by the Boylston Medical Committee.

For 1885 two prizes are offered : —

1. A prize of two hundred and fifty dollars for the best dissertation on *The Alleged Reappearance of Intermittent Fever in New England; its History, and the Pathology of the Disease.*
2. A prize of two hundred dollars for the best dissertation on *The Best Preliminary Education for the Study of Medicine.*

Dissertations on these subjects must be sent post-paid to MORRILL WYMAN, M.D., 24 Church St., Cambridge, Mass., on or before *Wednesday, April 1, 1885.*

For 1886 two prizes are offered : —

1. A prize of three hundred and fifty dollars for the best dissertation on *The Influence of the Soil as a Factor in the Causation and Spread of Typhoid Fever.*
2. A prize of two hundred dollars for the best dissertation on *The Relation of Hospitals to Medical Education.*

Dissertations on these subjects must be sent to the same address as above on or before *Wednesday, April 7, 1886.*

In awarding these prizes preference will be given to dissertations which exhibit original work, but if no dissertation is considered worthy of a prize, the award may be withheld.

Each dissertation must bear in place of its author's name some sentence or device and must be accompanied by a sealed packet bearing the same sentence or device and containing within the author's name and residence. *Any clew by which the authorship of a dissertation is made known to the committee will debar such dissertation from competition.*

Dissertations must be written in a distinct and plain hand, and their pages must be bound in book form.

All unsuccessful dissertations are deposited with the Secretary, from whom they may be obtained, with the sealed packet unopened, if called for within one year after they have been received.



By an order adopted in 1826, the Secretary was directed to publish annually the following votes:—

1. That the Board do not consider themselves as approving the doctrines contained in any of the dissertations to which premiums may be adjudged.

2. That in case of publication of a successful dissertation, the author be considered as bound to print the above vote in connection therewith.

The Boylston Medical Committee is appointed by the President and Fellows, and consists of the following physicians:—MORRILL WYMAN, M.D., *President*, GUSTAVUS HAY, M.D., ROBERT T. EDES, M.D., SAMUEL G. WEBBER, M.D., H. P. BOWDITCH, M.D., FRANCIS W. DRAPER, M.D., J. COLLINS WARREN, M.D., EDWARD S. WOOD, M.D., WILLIAM F. WHITNEY, M.D., *Secretary*, F. H. WILLIAMS, M.D.

The address of the *Secretary* is WILLIAM F. WHITNEY, M.D., Harvard Medical School, Boston, Mass.

## EXAMINATION PAPERS.

(June Examination, 1884.)



### First Year's Studies.

#### ANATOMY. — Professor DWIGHT.

Describe :—

1. The histology of muscular tissue.
2. The relation between the direction of the nutrient foramina of long bones and their ossification.
3. Describe the spinous and transverse processes of the vertebrae, giving the peculiarities of the different regions and of individual vertebrae.
4. Describe the middle fossa of the base of the skull, and name the structures passing through its openings.
5. The articulations of the atlas, axis, and occiput, and the movements.
6. Describe the muscles rotating the humerus on the scapula.
7. Describe the anastomoses of the branches of the subclavian artery with those of other arteries.
8. Describe the shape of the tongue; describe its mucous membrane and name the nerves supplying the organ.
9. What nerves supply the muscles of the fore-arm and hand?
10. Describe the shape of the liver and the position of the vessels and ligaments on its surface.
11. What differences are to be observed between a piece of intestine taken from near the upper end of the jejunum and one from near the lower end of the ileum?
12. Describe the origin of the three large vessels of the umbilical cord.



#### PHYSIOLOGY. — Professor BOWDITCH.

[Number the answers to the questions without copying the questions themselves. Do not number the pages of the book. Answer the questions in order, writing on each page in succession.]

1. What classes of substances must food contain?
2. What is the physiological action of “relishes” or “condiments”?
3. Describe the mechanism of deglutition.
4. What processes analogous to digestion occur in plants?
5. Describe the coagulation of the blood.

6. What nerves connect the central nervous system with the heart? Describe their functions.
  7. How may the work of the heart be estimated?
  8. How is the danger of obstruction to circulation by compression of the veins guarded against?
  9. What is the measure of "absolute muscular force"?
  10. Why does moisture in the air make warm weather more oppressive?
  11. What reason is there for supposing that liver sugar is not wholly formed from glycogen?
  12. What is the function of the third pair of cranial nerves?
  13. What is the effect of the extensive destruction of the cerebral cortex in dogs?
  14. How are color sensations affected by contrast?
  15. What is the function of the semi-circular canals of the ear?
  16. Why do the lungs collapse when an opening is made into the chest?
  17. Why is the air of a crowded room unfitted for respiration?
  18. Explain the excretion of urea by the kidneys.
  19. What tissues waste most rapidly and completely in starvation?
  20. What three motor nerves are brought into action in mastication?
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#### GENERAL CHEMISTRY. — Assistant Professor HILLS.

[In addition to the following questions, a written report of the analysis of a solution containing inorganic substances was required.]

1. Preparation, properties, and uses of chlorine.
2. Uses of arsenic and its compounds.
3. Chief sources of the compounds of potassium; sodium; ammonium.
4. Properties of the metal aluminum.
5. Uses of zinc.
6. Hydrocyanic acid. Occurrence in nature, preparation, properties, uses.
7. Oxalic acid.
8. Trommer's test for grape sugar. Explain the chemical changes which take place.
9. Write the analysis of the Zinc and Iron Groups as far as the addition of  $\text{BaCO}_3$ , giving the reasons for each step.
10. All the tests for hydrocyanic acid.
11. Write the equation showing the action of the group reagent upon a salt of each member of the Zinc and Iron Groups.
12. Calculate the percentage composition of ethyl alcohol ( $\text{C}_2\text{H}_6\text{O}$ ). What is the specific gravity of its vapor?



## Second Year's Studies.

## MEDICAL CHEMISTRY. — Professor WOOD.

[In addition to the following questions, a written report of the analysis of a specimen of urine and of a mixed organic and inorganic poison was required.]

1. What inferences can be drawn from a smoky color of the urine?
2. What inferences can be drawn from the fact that the solids are habitually increased relatively, but diminished absolutely, in the urine?
3. Describe the method for estimating the amount of urea quantitatively, giving all the precautions to be taken in the performance of the analysis.
4. What value has the estimation of the absolute amount of the urinary solids in diagnosing between the early stage of acute parenchymatous nephritis and active hyperaemia of the kidney? Between interstitial nephritis and amyloid degeneration of the kidney? Why?
5. What inferences can be drawn from the presence of hyaline and granular casts in the urinary sediment, there being no other abnormal sediment?
6. What is the character of the urine in a case of pyelitis calculosa?
7. Differences in the urine in cases of passive hyperaemia of the kidney and interstitial nephritis?
8. What inferences can be drawn from urine having the following characteristics? Why?

Color = sl. pale. Reaction = acid. Sp. Gr. = 1012½. Slight amount of sediment.

Uph. = —.  $\bar{U}^+$  = —. Cl. = n. E. P. = —.

Ind. = n.  $\bar{U}$  = sl. +. Sf. = n. A. P. = —.

Very slight trace of albumen, no bile or sugar. Sediment = an occasional pure hyaline cast of small diameter.

Total amount of urine = 1230 cub. cent.

“ “ “ urea = 15.74 grm.

“ “ “ Cl. = 4.18 “

“ “ “  $P_2O_5$  = 0.96 “

9. When called to a case, what circumstances would lead you to suspect poisoning, and what should you particularly observe?
10. To what extent is atropine an antidote for morphine?
11. Given a white powder: how distinguish *immediately* between oxalic acid, white arsenic, tartar emetic, and subnitrate of bismuth?
12. Symptoms and post-mortem appearances of phosphorus poisoning?

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MATERIA MEDICA. — Instructor BOLLES.

- I. Solubility in water of (1) Potassii Chloras; (2) Potassii Bromidum; (3) Iodoformum; (4) Lithii Citras; (5) Argenti Nitras; (6) Chloral; (7) Æther Fortior; (8) Acidum Carbolicum; (9) Hydrargyri Chloridum Corrosivum; (10) Thymol?

II. Composition of (1) *Pulvis Effervescens Compositus*; (2) *Spiritus Ammoniae Aromaticus*; (3) *Tinctura Gentianae Composita*; (4) *Pilulae Catharticae Compositae*; (5) *Vinum Ferri Amarum*?

III. The medicinally active principles of the following: (1) *Buchu*; (2) *Cubeba*; (3) *Senna*; (4) *Galla*; (5) *Nux Vomica*; (6) *Belladonna*; (7) *Aloes*; (8) *Ipecacuanha*; (9) *Cantharides*; (10) *Digitalis*?

IV. Doses: (1) *Spiritus Ammoniae Aromaticus*; (2) *Zinci Sulphas*; (3) *Syrupus Ferri Iodidi*; (4) *Atropinae Sulphas*; (5) *Ergota*; (6) *Vinum Colchici Radicis*; (7) *Pulvis Jalapae Compositus*; (8) *Oleoresina Aspidii*; (9) *Pepsinum Saccharatum*; (10) *Tinctura Aconiti*?

V. Write a Prescription for Iron combined with a laxative and a bitter.

VI. Opium: (1) Botanical and (2) Geographical Sources; (3) Description; (4) Cultivation and Collection; (5) Varieties?

VII. Opium, continued: (1) Chemical Composition; (2) Preparations and their doses?

VIII. *Cinchona*: same subdivisions as in question VI.?

IX. *Cinchona*: same subdivisions as in question VII.?

X. Samples?

## PATHOLOGICAL ANATOMY.—Professor FITZ.

1. Discriminate between a clot and a thrombus.
2. Explain the presence of pigment in the tissues.
3. Distinguish between fibrous and fibrinous adhesions.
4. Give the basis of the classification of tumors.
5. Describe the appearances of acute internal pachymeningitis.
6. Describe the method of origin and appearances of yellow softening of the brain.
7. Give the characteristics of chronic interstitial myelitis.
8. State the varieties of rupture of the heart, and distinguish between them.
9. Distinguish between hypertrophy and dilatation of the heart.
10. Define pneumonia, and enumerate the varieties as to products and distribution.
11. Explain the method of origin of cavities in the lung.
12. Give the varieties of oesophageal diverticula, and state their method of origin.
13. Enumerate the usual seats of cancer in the intestinal tract.
14. Define jaundice, and give its methods of origin.
15. Enumerate the varieties of atrophied liver.
16. Describe the conditions under which urinary infiltration takes place.
17. State the alterations which may be present in a large white kidney.
18. Give the significance of the term "villous" in connection with tumors of the bladder.

19. Enumerate the varieties of cysts which may arise from the pelvic organs of the female.

20. Define a retro-uterine haematocele.

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### TOPOGRAPHICAL ANATOMY. — Professor DWIGHT.

1. The boundaries of the superior mediastinum; the contents and their relative positions.

2. The position of the heart and the relation of the chief parts to the wall of the chest.

3. The position of the spleen and its relations to the surface.

4. How is the cerebrum divided into lobes? What are the chief fissures in the convex surface of the brain? How would their positions and that of the lower border of the cerebrum be shown on the surface of the head? Where is the Island of Reil? What is the claustrum? Above what part of the base of the skull is the lowest part of the third ventricle?

5. Describe the motions of flexion and extension of the wrist.

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### Third Year's Studies.

#### THERAPEUTICS. — Professor EDES.

Say what you mean clearly and *only once*. Avoid vague phrases. Use the metric system.

1. Describe the absorption, elimination, and action of bromide of potassium in the single, continued, and large dose.

2. Describe the action and uses of nitrite of amyl and nitroglycerine. Of ergot. (You may omit the rules for its obstetric exhibition.)

3. Give the symptoms of the small, large, and poisonous dose of morphia. The indications and contra-indications for its use.

4. Theory, results, and rules for cold bathing in typhoid. For cold bathing as a tonic.

5. Describe four *different* cathartics. Write two prescriptions, containing at least three active ingredients each, for cathartics.

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#### OBSTETRICS. — Assistant Professor RICHARDSON.

1. Give the important diameters (inches) of the foetal head and the pelvis.

2. At what period of foetal life are the sexes differentiated?

3. In what classes of cases would you expect trouble from an ankylosis of the sacro-coccygeal joint?

4. What information as regards the position of the child (head presentation) can be obtained from an external examination?

5. What is the origin and significance of a caput succedaneum?
6. In a face presentation, during the delivery, should the brow or the chin engage under the pubic arch?
7. Uterine contractions (except in cases of accidental hæmorrhage) detach a placenta normally situated without a hæmorrhage; while the same contractions detach a placenta prævia partialis with a hæmorrhage. Explain this.
8. What is the significance and treatment of a post-partum chill?
9. Treatment of post-partum hæmorrhage?
10. In what cases are forceps contra-indicated?

### SURGERY. — Professor CHEEVER.

1. Delirium Tremens: when do you look for it? Symptoms; treatment.
2. Hospital Gangrene: its etiology and varieties.
3. Describe the dressings you would use for various degrees of Burns.
4. Define Pyæmia: how would you distinguish it from Septicæmia?
5. Cirroid Aneurism: diagnosis; modes of treating.
6. What are some of the supposed causes of Inflammation, and how are its phenomena explained?
7. Differential diagnosis of Cancer from a glandular tumor (adenocèle) of the breast.
8. Describe the differences in appearance and in pathology of Rheumatism, or White Swelling of the Knee.
9. Diagnosticate and treat a simple fracture of the Femur.
10. Enumerate the surgical affections of the Antrum.

### CLINICAL SURGERY. — Assistant Professor PORTER.

CASE I. — A healthy man 35 years of age has had for many years a pear-shaped enlargement of one side of the scrotum, size of a small coconut, which he has been in the habit of puncturing, drawing off a clear amber-colored fluid, reducing the scrotum to its normal size. A few hours after the last puncture he noticed that the swelling had commenced to reappear. In 48 hours the tumor was of the original size and a large portion of the scrotum ecchymosed. How do you explain the rapid reappearance of the tumor and the ecchymosis of the scrotum? What are the complications liable to arise? What would be your treatment and prognosis?

CASE II. — What are the causes of the fracture of the patella?  
 What are the symptoms?  
 What is the treatment?  
 What are the complications?  
 What is the prognosis?

CASE III. — What are the causes of retention of urine?  
 What are the means for making a differential diagnosis?  
 Give treatment and prognosis.

## THEORY AND PRACTICE. — Professor MINOT.

1. Give the pathology and the symptoms of cerebral embolism.
  2. Give the symptoms and the prognosis of hypertrophic cirrhosis of the liver.
  3. What are the symptoms of insufficiency of the mitral valve? How would you treat it?
  4. Give the differential diagnosis between wrist-drop from pressure on the musculo-spiral nerve, and wrist-drop from lead poisoning.
  5. Give the differential diagnosis between progressive muscular atrophy and atrophy from lead poisoning.
  6. What are the causes and the prognosis of the different forms of facial palsy?
  7. What is the significance of the foetal circulation in reference to cardiac disease in infancy?
  8. What are the circumstances under which weaning is required, and what are the methods indicated?
  9. Describe the peculiar symptoms of typhoid fever in infancy and childhood.
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## CLINICAL MEDICINE. — Professors MINOT and EDES.

[Discuss as many of these cases as the time will allow, in the order in which they are arranged. Success will depend more upon the quality than the quantity of the work. The intelligent discussion of the cases will have more weight than a hasty and inconclusive though correct diagnosis.]

1. A school-girl, 14 years old, always rather delicate, had complained since April, 1883, of lassitude, ascribed to hard work at school. June 27th, there was pain, redness, and swelling in the ankles, knees, and one shoulder. Temp. 103° F. Two days afterwards, pain in praecordia, and a to-and-fro sound. This was followed by much dulness on percussion, and disappearance of the friction sound. A day later there was slight cough and fine crepitant râle in the upper and outer part of the left chest, in front. There had been no chill. July 1st, she was prostrated, pulse 120, weak, resp. 28, T. 100.6° F. There was cough and a little bloody, adhesive expectoration. Tongue nearly clean. Tenderness on pressing upwards beneath the left cartilages. There was dulness in the praecordia over a triangular area, whose apex was at the second rib, and base on a level with the liver dulness, extending from a little outside the nipple line to the left edge of sternum. There was a slight to-and-fro sound in the fourth interspace, near the left edge of sternum. Second pulmonary sound accentuated. No aortic or pulmonary murmur, but a moderately loud systolic murmur at the apex. Undulation visible at about the third left interspace. Abundant fine, dry crepitant râle above the left nipple, extending towards the axilla. Dulness in lower half of left back, with bronchial respiration. The joint-symptoms had disappeared.

Give the diagnosis, prognosis, and treatment.

2. A man aged 34, a barkeeper, who, however, was not a drinker, and who had apparently been for most of his life in good health, began, about three months ago, to have sharp aching pains over the front and top of his head. There was some dimness of vision of the left eye. During this



time frequent nausea and vomiting. When first seen had frequent and severe headaches and some swelling of the feet. More or less vomiting, somewhat diminished by careful diet. His temperature was 99 and pulse 104. The urine was somewhat increased in quantity, of sp. gr. 1017, contained  $\frac{1}{4}$  p. c. albumen. The sediment consisted of blood, renal epithelium, fatty cells and free fat, hyaline, granular, and fatty casts, and an occasional blood cast. The pulse was rather strong and uncompressible, but inclined to be rapid. The heart's dulness extended a little outside the nipple. The impulse was strong just below the nipple. There was a short systolic murmur audible at the apex, but loudest along the left edge of the sternum and toward the ensiform cartilage. There was some venous pulsation on the right side of the neck. This patient soon afterward had several attacks of severe pain in the right back, shooting down into the groin. During and after these he passed a large amount of blood in the urine accompanied by semi-solid masses. There was no increase in the oedema, and his general appearance did not materially change for the worse. He was seen one Sunday, and no marked change in the symptoms noted. On Monday he felt unusually well until afternoon, when he had a severe pain in the back relieved by hot applications, after which there was a copious flow of bloody urine. About 11 p.m. he had a very severe pain in the head, and soon became comatose and died.

Diagnosis? What would you have probably found by the ophthalmoscope? What was the cause of death? What would have been your treatment if you had seen him in the earlier stage of the disease?

3. A man, 67 years old, somewhat dyspeptic, but not confined to the house by sickness for many years, never in the habit of drinking, began to complain, about Dec. 1st, of a feeling of discomfort in the abdomen, with flatulence. Soon afterwards the abdomen enlarged, and became very tympanitic. Jan. 30th, he had loss of appetite, the complexion was sallow, but he was not jaundiced. There was no vomiting. The mind was clear. Pulse, 70. There was a considerable amount of fluid and of gas in the abdomen, which made it impossible to determine whether the liver were enlarged or not. There was no dropsy of the legs. No signs of disease within the chest. The urine contained an abundance of urates, but was otherwise normal. The family history was good. Feb. 8th, he had intense pain in the lower part of the abdomen, followed by profuse discharges of blood both from the stomach and from the bowels, and died.

Give the diagnosis, with your reasons for it.

4. A young man, aged 19, had diphtheria two years ago and made a good recovery. He entered the City Hospital on the 6th, having been sick five or six days. He felt hot, feverish, and chilly at times. He had a severe frontal headache and vomiting. He could not sleep, but felt dull and heavy. There was a sore feeling about his neck, and some difficulty in swallowing. He had no cough, his bowels were regular and micturition scanty. At the time of entrance his temperature was  $99^{\circ}$ , but in the evening  $104.2^{\circ}$ . The next morning  $104.5^{\circ}$ , and in the evening  $105^{\circ}$ . The fauces were generally red and swollen, but there were no white spots of any kind to be seen. The submaxillary glands were not enlarged. The face was somewhat red. On the 7th there was a generally diffused redness over the whole body, very slightly roughened. The urine was of sp. gr. 1025, with no albumen, and nothing significant in the sediment. On the 8th the evening temperature was  $104.5^{\circ}$ , and on the 9th,  $102.5^{\circ}$ .

Give the diagnosis, prognosis, and treatment.



**Fourth Year's Studies.****OPERATIVE SURGERY. — Assistant Professor PORTER.**

Describe the operation for —

1. Ligature of the Lingual Artery.
  2. Ligature of External Iliac.
  3. Ligature of the Popliteal.
  4. Excision of Shoulder Joint.
  5. Amputation of Leg-flap.
  6. Circumcision.
  7. Enucleation of Eye.
  8. Tracheotomy.
  9. Excision of portion of Rib.
  10. Castration.
- 

**CLINICAL AND OPERATIVE OBSTETRICS.**

Assistant Professor RICHARDSON.

1. A primipara has been in labor eighteen hours. The head is at the superior strait with the occiput posterior and at the right. The os uteri is fully dilated. The anterior fontanella can be easily felt to the left of the symphysis pubis. The membranes are ruptured. The child is alive, but its condition calls for immediate delivery. Treatment in detail.

2. When is the operation of decapitation indicated?

3. Treatment of the prolapse of the funis.

4. The morning of the fifth day after confinement, the temperature (heretofore normal) is 102°; pulse 110; lochia have suddenly become scanty, but not offensive; milk normal; headache; no chill; some slight tenderness over the uterus which is larger than it should be on the fifth day. Bowels moved by enema the fourth day. No nausea or vomiting. Diagnosis, prognosis, treatment?

5. Treatment of ruptured perineum immediately after labor.

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**OPHTHALMOLOGY. — Professor WILLIAMS.**

1. What ocular symptoms may result from diphtheria?
2. What ophthalmoscopic appearances may accompany renal disease?
3. What are the symptoms and treatment of catarrhal conjunctivitis?
4. Describe some of the varieties of cataract.
5. How may the syphilitic diathesis affect the eye?

## DERMATOLOGY. — Professor WHITE.

1. Anatomy of the epidermis.
  2. Differential diagnosis between herpes and acute eczema.
  3. Treatment of acne.
  4. Tissue changes in elephantiasis arabum.
  5. Description of lupus erythematosus.
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## GYNAECOLOGY. — Assistant Professor BAKER.

1. Give the topographical anatomy of the bladder and urethra, with reference to the various operations for fistula.
  2. Give the palliative treatment in a case of cystocele, and describe the operation for its radical cure.
  3. Of what significance is metrorrhagia as a symptom, and what would be your treatment in the various conditions which give rise to it?
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## DISEASES OF CHILDREN. — Drs. OLIVER and ROTCH.

1. Into what classes may the cardiac diseases of infancy and childhood be divided? and state what you know concerning their causes.
  2. Enumerate the different conditions of which eclampsia may be a symptom.
  3. Describe the pathological conditions which exist in cholera infantum and from these deduce the appropriate treatment.
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## DISEASES OF THE NERVOUS SYSTEM.

Drs. WEBBER and PUTNAM.

[It will be sufficient to have answered four questions.]

1. How do cerebral tumors give rise to symptoms?
2. What is Aphasia; its varieties; how is it produced?
3. What is the value of vertigo as a symptom?
4. Describe neuritis, giving treatment.
5. What are the causes of apoplexy?
6. What is the relation of Bright's disease to diseases of the Nervous System?
7. Give the differential diagnosis between true epilepsy and hystero-epilepsy.

## MENTAL DISEASES. — Assistant Professor FOLSOM.

1. Describe a case of general paralysis.
  2. Describe a case of acute melancholia.
  3. Describe a case of *folie circulaire*.
  4. Give the prognosis and treatment in each case.
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## LARYNGOLOGY. — Assistant Professor KNIGHT.

[N. B.]—Each student is expected to answer two of the following questions.]

1. What would be the indications for removal of the following hypertrophies, and how would you operate in each form: —
    - (a) Hypertrophy of adenoid tissue at the vault of the pharynx.
    - (b) Hypertrophy of the posterior ends of the turbinated bones.
    - (c) Hypertrophy of the anterior ends of the turbinated bones.
  2. (a) What muscles adduct the vocal cords (i. e. draw them towards the median line)?  
 (b) What muscles abduct the vocal cords (i. e. draw them from the median line)?  
 (c) Describe the laryngoscopic image in case of paralysis of the abductors, and the effect of such paralysis upon the respiration and voice.
  3. What is the most common neoplasm in the larynx? Describe the laryngoscopic appearances in a case, and give the prognosis and treatment in the case you describe.
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## OTOLOGY. — Drs. GREEN AND BLAKE.

1. Describe the anatomy of the sound-conducting mechanism of the ear.
  2. Describe the functions of the Eustachian tube.
  3. Give the differential diagnosis between acute tympanic inflammation and neuralgia.
  4. In what form and under what circumstances is Boracic Acid used in the treatment of ear-disease?
  5. Given a case of purulent inflammation of the *right* tympanum in which the vibrating tuning-fork on the forehead is heard only in the *left* ear, what conclusion can be drawn?
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## LEGAL MEDICINE. — Assistant Professor DRAPER.

1. Mention some of the anatomical malformations which simulate hermaphroditism.
2. Upon the discovery of an unidentified adult skeleton, what characteristics does the medical examiner find about the pelvis to enable him to state that it is that of a woman?
3. To what extent is the medical witness permitted by rules of law to use notes when giving testimony?
4. A dead body is found hanging by the neck; what are the anatomical evidences, external and internal, that the death was caused by the suspension?

### VENEREAL DISEASES. — Dr. GREENOUGH.

Describe a typical case of Syphilis from the appearance of the primary lesion to the full development of the secondary symptoms.

That is — give a description of a typical primary lesion, with the differential diagnosis between it and other lesions with which it might be confounded. The treatment and prognosis.

Describe the usual secondary symptoms that are to be expected, with treatment and prognosis.

## ADMISSION EXAMINATION PAPERS.

### LATIN.

TRANSLATE:—

1. *Eisdem temporibus Persarum rex Darius, ex Asia in Europam exercitu trajecto, Scythis bellum inferre decrevit. Pontem fecit in Histro flumine, qua copias traduceret. Ejus pontis, dum ipse abesset, custodes reliquit principes, quos secum ex Ionia et Aeolide duxerat; quibus singulis suarum urbium perpetua dederat imperia. Sic enim facillime putavit se Graeca lingua loquentes, qui Asiam incolerent, sub sua retenturum potestate, si amicis suis oppida tradidisset, quibus, se oppresso, nulla spes salutis relinqueretur.*

2. *Laocoon, ductus Neptuno sorte sacerdos, Solennes taurum ingentem mactabat ad aras. Ecce autem gemini a Tenedo tranquilla per alta (Horresco referens) immensis orbibus angues Incumbunt pelago, pariterque ad litora tendunt: Pectora quorum inter fluctus arrecta, jubaque Sanguineae exsuperant undas: pars caetera pontum Pone legit, sinuatque immensa volumine terga. Fit sonitus spumante salo: jamque arva tenebant, Ardentesque oculos suffecti sanguine et igni, Sibila lambabant linguis vibrantibus ora.*

### FRENCH.

#### PENSÉES. REMARQUES.

Il ne faut pas juger un homme sur un mot, ni sur un fait isolé. La vie se compose de tant de contradictions, qu'on prendrait souvent l'exception pour la règle.

Boileau aimait la société, et était très exact à tous les rendez-vous: "Je ne me fais jamais attendre, disait-il, parce que j'ai remarqué que les défauts d'un homme se présentent toujours aux yeux de celui qui l'attend.

Levez-vous matin, si vous voulez vous enrichir ou vaincre un ennemi.

Les paresseux ne font jamais que des gens médiocres.

L'égoïste brûlerait votre maison pour se faire cuire deux œufs.

Ducis aimait beaucoup Horace et Montaigne, peut-être parce que esc deux écrivains aimaient beaucoup leurs pères.

Qu'y a-t-il de plus beau? l'univers. — De plus fort? la nécessité. — De plus difficile? de se connaître. — De plus facile? de donner des avis. — De plus rare? un véritable ami.

Un évêque fit cette question à un jeune enfant: "Mon petit ami, dites-moi, où est Dieu, je vous donnerai une orange." — "Monseigneur," répondit l'enfant, "dites-moi où il n'est pas, et je vous en donnerai deux."

#### LE LANGUEDOC.

Le Languedoc est la province la plus méridionale de la France, et par conséquent celle où il fait de plus chaud. Elle renferme un grand nombre de belles villes; entre autres Narbonne, fameuse par l'excellent miel qu'on y recueille; Nîmes, célèbre à cause d'un ancien amphithéâtre romain, qui y subsiste encore; Montpellier, dont l'air est si pur, et le climat si beau, qu'on y envoie souvent les malades, même d'Angleterre, pour se rétablir.

#### GERMAN.

TRANSLATE: —

*Der Major* allein (hat Briefe gelesen). Also heute kommen zwei Candidaten, um die erledigte Pfarre sich zu melden, — und ich bin Kirchen-Patron ich soll entscheiden — Ja lieber Gott! wenn ich nur etwas davon verstünde. Ob der Kutscher meine Pferde ordentlich füttert and der Jäger meine Hunde, das kann ich wohl beurtheilen; aber ob der Pfarrer die Seelenspeise für meine Bauern kräftig zugerichtet, das geht über meinen Horizont — Je nun, ich verlasse mich auf Amalien, die soll prüfen und wählen; die hat einen feinen Takt, Fühlhörner an der Seele.

Nun ist's aber Zeit, dass ich ihr sage, was ich mit ihr vorhabe. Sie wird sich wundern, auch wohl zieren, doch am Ende mir es danken.

#### AMALIE. DER MAJOR.

*Amalie.* Guten Morgen, lieber Herr Major.

*Major.* Schon wieder der Herr Major? Wie oft soll ich Ihnen sagen, dass ich meinen Titel an Ihrem Munde nicht leiden kann? Papa soll Sie mich nennen. So nannten Sie ja auch Ihren seligen Mann.

*Amalie.* Er war freilich älter als ich.

*Major.* Ueber vierzig Jahr. Nun ich denke, bei mir wird auch nicht viel daran fehlen. Also, mein Töchterchen, dass der biedere Alte hat sterben müssen, thut mir noch immer in der Seele weh.

*Amalie.* Gewiss, er hat ein freundliches Andenken verdient.

*Major.* Indessen braucht die Kirche einen andern Pfarrer.

*Amalie.* Sehr natürlich.

*Major.* Und die Wittve einen andern Mann.

*Amalie.* Sehr überflüssig.

*Major.* In Ihren Jahren —

*Amalie.* Ich bitte, mich in dieser Hinsicht für ein altes Mütterchen zu halten.

#### PHYSICS.

1. Prove that, in uniform motion, space passed over is equal to velocity multiplied by time.

2. Into what three groups may the forces of nature be divided?

3. What does ductility denote? Give examples of bodies which possess it.
4. Show that, by employing pistons of different sizes, a fluid is capable of forming a very powerful mechanical arrangement.
5. Describe a siphon and its action, and explain why the flow of liquid from one vessel to the other is maintained.
6. Prove that the work which can be accomplished by a moving body is proportional, (1) to the square of its velocity, (2) to its mass.
7. Explain the change of zero of a mercurial thermometer, and the corrections which must be applied to eliminate this source of error.
8. Show that, in the metric system, the weight (in grams) of one cubic centimeter of any substance will denote at the same time its specific gravity.
9. What is the principle of all freezing mixtures?
10. What is the nature of the images produced by convex spherical mirrors?

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### GEOMETRY.

- I. Define a solid; a broken line; an angle; an obtuse angle; vertical angles; a scalene triangle; a parallelogram; and a rhomboid.
- II. The sum of two lines drawn from a point to the extremities of a straight line is greater than the sum of two other lines similarly drawn, but included by them.
- III. When two straight lines are cut by a third straight line, if the alternate-interior angles be equal, the two straight lines are parallel.
- IV. Two triangles are equal in all respects, when a side and two adjacent angles of the one are equal respectively to a side and two adjacent angles of the other.
- V. The perpendiculars erected at the middle points of three sides of a triangle meet in a point.
- VI. The diagonal of a parallelogram divides the figure into two equal triangles.
- VII. The exterior angles of a polygon, made by producing each of its sides in succession, are equal to four right angles.
- VIII. The diameter of a circle is greater than any other chord.

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### ALGEBRA.

[Leave all the work.]

1. If  $a = 4$ ,  $b = 2$ ,  $c = 3$ , and  $d = 1$ , find the value of  $15a - 7(b + c + d)$ .
2. John had 45 cents; after spending a part of them he found he had twice as many left as he had spent. How many cents had he spent?
3. What is the sum of  $3x - 7y + 2z$ ,  $4y + 6z - x$ ,  $-3z - 2y + a$ , and  $4x + 3z - y$ ?
4. From  $ay - by + cy$  take  $y + ay - by$ .



5. Multiply  $5a^2 + 3x$  by  $5a^2 + 3x$ .
6. Divide  $27ab^2(x+y)^3$  by  $3b^3(x+y)^5$ .
7. Divide  $a^2 - 3a^2b + 3ab^2 - b^3$  by  $a - b$ .
8. Multiply  $\frac{a^2 + b^2}{a^2 - b^2}$  by  $\frac{a - b}{a + b}$ .
9. The age of James is to that of John as 3 to 4; but 6 years hence their ages will be in the ratio of 5 to 6. What are their ages?
10. A has  $\frac{4}{9}$  as much money as B; but if A should gain \$10 and B lose the same sum, they will have equal amounts. How much has each?

### ENGLISH COMPOSITION.

[A fair knowledge of Spelling and Grammar will be required.]

1. Write an English composition (such as a letter, a description of a place, etc.) of not less than two hundred words.
2. Write from dictation for ten minutes.
3. Spell the following words: Separate, Origin, Embarrass, Laboratory, Thoroughly, Disease, Committee, Analysis, Tobacco, Foreign.

### BOTANY.

1. Give a description (and make a diagram if you can) of the parts of a flower. What are their uses?
- 2 and 3. Describe (and sketch if you can) two of the following-named plants: Buttercup (*Ranunculus bulbosus*), Wistaria (*W. frutescens*), Violet (*Viola pedata*), Monkshood (*Aconitum napellus*), Apple of Peru (*Datura stramonium*), Mountain Laurel (*Kalmia latifolia*), Dandelion (*Taraxacum dens-leonis*), Indian Corn (*Zea mays*), Sugar Maple (*Acer saccharinum*).
4. What medicinal plants in the orders Umbelliferæ; Ranunculaceæ; Papaveraceæ; Euphorbiaceæ; Convolvulaceæ; Cucurbitaceæ; Solanaceæ? (Answer three out of this list.)
5. With how many species of plants in your own neighborhood are you familiar? Describe one of them minutely and give its scientific name and classification.





